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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/399,412	09/20/1999	MICHAEL E. RING	CRD-02384	2234

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JAMES RAY & ASSOCIATES
2640 PITCAIRN ROAD
MONROEVILLE, PA 15146

EXAMINER
BROADHEAD, BRIAN J

ART UNIT	PAPER NUMBER
3661	

DATE MAILED: 12/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/399,412	RING, MICHAEL E.	
	Examiner	Art Unit	
	Brian J. Broadhead	3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 September 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3 and 5-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 5-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 December 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 2, 3, 5, 6, 7, 8, 11, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cook et al., 5605387, in view of Fourie, 4671576.

As per claims 1 and 11, Cook et al. discloses preprogramming information into a computer on line 47, on column 2; determining the speed of the train on line 43, on column 2; communicating a speed signal to a computer on the locomotive on line 8, on column 4; determining in the computer a pressure that can be applied to the brake cylinders that will maintain maximum adhesion between the wheels and the rail surface such that braking energy is substantially evenly distributed to all of such wheels on lines 40-47, on column 4, and lines 35-42, on column 2; communicating the pressure signal to the brake cylinders on lines 65-67, on column 4; and maintaining maximum pressure on the brake cylinders to stop the train in the shortest distance on lines 1-3, on column 5. Cook et al. does not disclose the pre-selected information includes velocity dependence of wheel to rail adhesion. Fourie teaches of pre-selected information including velocity dependence of wheel to rail adhesion on lines 14-25, on column 6. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the adhesion information of Fourie in the invention of Cook et al. because

knowing the adhesion characteristics help to calculate a limit to the brake demand signal to prevent unwanted slip.

As per claim 2, Cook et al. discloses providing feedback to the computer on line 15, on column 2.

As per claim 3, Cook et al. does individually control each truck (axle) of the train so it is inherent that the invention knows how many trucks there are. This is equivalent to knowing the length for determining how to distribute braking power.

As per claims 5 and 6, Cook et al. discloses programming the weight and weight of each car and using it to calculate brake pressure for the shortest stop distance on lines 40-52, on column 4.

As per claims 7 and 8, Cook et al. discloses the speed and pressure signals are electrical signals on lines 63-65, on column 3, and lines 65-67, on column 4.

As per claims 16 and 17, Cook et al. discloses speed sensing means on the locomotive and freight cars on lines 60-61, on column 3.

1. Claims 9, 10, 12, 13, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cook et al., 5605387, and Fourie, 4671576, in view of Kull, 5681015.

2. Cook et al. and Fourie disclose all the limitations as set forth above. Cook et al. and Fourie do not explicitly disclose transmitting the control signals over wires or by radio communication. Kull teaches of using both wire and radio communication on lines 19-22, on column 2. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the wires or radio communication of Kull in the

invention of Cook et al. and Fourie because it prevents the delay associated with pneumatic signals.

3. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cook et al., 5605387, and Fourie, in view of Matsuoka, 5544057.

Cook et al. and Fourie disclose all the limitations as set forth above. Cook et al. and Fourie do not disclose means for determining the weight of the train. Matsuoka teaches of determining the weight of train in the abstract. It would have been obvious to use the weight detection of Matsuoka in the invention of Cook et al. and Fourie because such modification would provide the load present that will cause braking torque's to vary.

4. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cook et al. 5605387, and Fourie, in view of Roselli et al., 5718487.

Cook et al. and Fourie disclose all the limitations as set forth above. Cook et al. and Fourie do not disclose input means in the locomotive and the input means being a keyboard. Roselli et al. discloses input means in the locomotive and the input means being a keyboard on lines 33-35, on column 4. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the keyboard of Roselli et al. in the invention of Cook et al. and Fourie to provide a way to adjust variable related to train operation.

Response to Arguments

Applicant's arguments with respect to claims 1-3, and 5-20 have been considered but are moot in view of the new ground(s) of rejection. After an updated search and

reconsideration of the previously cited art it is apparent that the previously cited prior art discloses the added limitation and is still the best prior art. Cook et al. is a brake energy balancing system and on lines 54-55, on column 3, Cook et al. discloses using his invention on other types of trains or the like. This would include freight trains.

Conclusion

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

2. Cook et al., 5700072, discloses a brake energy balancing system for multiple brake units.

3. Cook et al., 5507568, discloses a brake energy balancing system for multiple brake units.

4. Barefoot, 5566795, discloses a braking system for a rail car.

5. Nickles et al., 6144901, discloses a method of optimizing train operating and training.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Broadhead whose telephone number is 703-308-9033. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William A. Cuchlinski can be reached on 703-308-3873. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

BJB
December 16, 2002

JACQUES H. LOUIS-JACQUES
PRIMARY EXAMINER